

REMARKS/ARGUMENTS

In the Office Action mailed August 18, 2009, claims 1, 2, 4, and 7-14 were rejected. Additionally, claim 3 was objected to, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. In response, Applicants hereby request reconsideration of the application in view of the amendments and the below-provided remarks.

For reference, claims 1, 2, 4, and 7-12 are amended to clarify the language of the claims. In particular, each of these claims is amended to provide consistent references to the “at least one circuit component” and/or the “configurable circuit arrangement.” Claim 12 is also amended to delete the phrase “the steps of.” These amendments are supported by the original language of the claims.

Also, claims 15-21 are added, and claim 3 is canceled. In particular, claim 15 is added to recite in independent form the allowable subject matter from claims 1, 2, and 3. Consequently, claim 3 is canceled. Claims 16-21 are added to depend from claim 15 and to recite the subject matter of claims 4 and 7-11, respectively. These amendments are supported, for example, by the original language of the claims and the subject matter described in the specification.

Allowable Subject Matter

Applicants appreciate the Examiner’s review of the claims and determination that claim 3 recites allowable subject matter. In particular, the Office Action states that claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Consequently, claim 3 is rewritten in independent form—as new claim 15—including all of the limitations of the base independent claim 1 and the intervening claim 2. There are no other intervening claims. Thus, new claim 15 should be allowable. Similarly, new claims 16-21 depend from claim 15 and also should be allowable.

Additionally, while the Office Action provides a statement of reasons for the indication of allowable subject matter, the statement is directed to specific aspects of

certain claims and not necessarily all of the claims. Applicants note that the comments may have paraphrased the language of the claims and it should be understood that the language of the claims themselves set out the scope of the claims. Thus, it is noted that the claim language should be viewed in light of the exact language of the claim rather than any paraphrasing or implied limitations thereof.

Examiner's Response to Arguments

Applicants appreciate the Examiner's diligence in responding to each of Applicants' arguments presented in Applicants' most recent response. From the Examiner's statements, it is apparent that the Examiner disagrees with all of the arguments presented in Applicants' most recent response. Nevertheless, the current Office Action includes new grounds of rejections and does not maintain the previous grounds of rejection. Thus, even though the Examiner disagrees with Applicants' arguments, the prior grounds of rejection are moot. Hence, the Examiner's statements directed to Applicants' arguments in favor of patentability over the prior grounds of rejection appear to be moot, too.

However, it should be noted from the statements in the Examiner's response that the Examiner appears to take an attitude of liberal interpretation of the language of the claims, to the point of disregarding specific limitations recited in the claims. In particular, the Examiner states, "In this case the applicant is simply claiming a means for determining load on and means for switching off a buffer circuit." Office Action, 8/18/09, page 5. The Examiner also concludes that there are "plenty of references which read on these broad claims." Id. While Applicants understand that the Examiner must give the claims their broadest reasonable interpretation during examination, this "broadest reasonable interpretation" standard does not allow the Examiner to disregard the specific limitations recited in the claims. Additionally, this "broadest reasonable interpretation" standard must be consistent with the description in the specification, as well as the interpretation of those skilled in the art.

Moreover, while the Examiner's approach to examination of the present application may take into account some of the language of the claims, it should be

recognized that examination of the present application based on a distilled or simplified version of the claim language does not satisfy the requirements to show how the prior art purportedly discloses or teaches all of the limitations of the claims. Thus, the Examiner's statements regarding an interpretation of what is "simply" claimed should not skew the conclusions of the Examiner's analysis or the outcome of the present examination. Also, to the extent that the Examiner's simplified interpretation disregards specific limitations recited in the claims, the Examiner's statements regarding a simplified interpretation of what is claimed should not be relied on in determining the scope of the claims or the broadest reasonable interpretation of the claims.

Claim Rejections under 35 U.S.C. 102 and 103

Claims 1, 2, 4-8, 11, and 12-14 were rejected under 35 U.S.C. 102(b) as being anticipated by Song (U.S. Pat. No. 6,836,143, hereinafter Song). Additionally, claims 9 and 10 were rejected under 35 U.S.C. 103(a) as being unpatentable over Song (although the Office Action appears to inadvertently cite Schultz et al. (U.S. Pat. No. 6,445,245)) in view of Ajit (U.S. Pat. Pub. No. 2002/0113628, hereinafter Ajit). Additionally, claim 11 was rejected under 35 U.S.C. 103(a) as being unpatentable over Song in view of Schultz. However, Applicants respectfully submit that these claims are patentable over Song, Schultz, and Ajit for the reasons provided below.

Independent Claim 1

Claim 1 is patentable over Song because Song does not disclose all of the limitations of the claim. Claim 1 recites:

A configurable circuit arrangement comprising at least one circuit component at which a load is applied that can vary during operation of said circuit arrangement, wherein said configurable circuit arrangement comprises:

load determination means for determining a load applied at said at least one circuit component having different fan-in or fan-out depending on a configuration of said configurable circuit arrangement; and

adjusting means for switching off a buffer connected to the at least one circuit component according to the determination of the applied load, wherein switching off the buffer adjusts a drive capacity of said at least

one circuit component to a value less than a maximum drive capacity while still meeting a delay specification.

(Emphasis added.)

In contrast, Song does not disclose all of the limitations of the claim. In particular, Song does not disclose a circuit component having different fan-in or fan-out configurations. Also, Song does not disclose switching off a buffer or, more specifically, switching off a buffer to adjust a drive capacity of the circuit component. Also, Song does not disclose meeting a delay specification.

1. Song does not disclose a circuit component having different fan-in or fan-out configurations.

Song does not disclose a circuit component having different fan-in or fan-out configurations. More specifically, Song does not disclose a circuit component having different fan-in or fan-out depending on a configuration of said configurable circuit arrangement.

It should be noted that the Office Action does not attempt to identify any specific disclosure of Song that might address the fan-in and fan-out language of the claim.

Rather, the Office Action merely states:

Regarding claim 1, Song discloses at least one circuit components (pad 106 @ Fig. 1) at which a load is applied (resistor R) that can vary during operation (resistor R) can have any value) where the configurable arrangement (107) comprises: load determination means (comparators 203 & 204) for determining a load (of resistor R) applied to the at least one configurable circuit component (105) having different fan-in or fan-out (based on the load) depending on a configuration of the circuit arrangement;

Office Action, 8/18/09, page 5 (emphasis added).

While the Office Action refers to the termination circuit 105 of Song, there is no explanation of how the termination circuit 105 of Song might have different fan-in or fan-out configurations. It appears that the reasoning in the Office Action relies on the description of selectively turning on/off the PMOS transistors MP1-MPn and the NMOS transistors MN1-Mnm in order to vary the internal impedance of the termination circuit

105. However, despite the description of controlling the transistors within the termination circuit 105, Song does not disclose different fan-in or fan-out configurations because the internal switching of the transistors does not affect the number of fan inputs or fan outputs of the termination circuit 105. In all cases, the terminations circuit 105 merely has a single input and a single output, as illustrated in each of Figs. 1, 2A, and 2B of Song. Thus, the internal configuration and switching of the transistors of Song is not sufficient to disclose different fan-in and/or fan-out configurations.

Moreover, it should be recognized that the circuit component recited in the claim is also referenced in the claim as being the circuit component at which the load is applied. Thus, even if the termination circuit 105 of Song were considered a circuit component with different fan-in or fan-out configurations, the termination circuit 105 of Song nevertheless is not a circuit component at which the indicated external reference resistor R is applied. Rather, the termination circuit 105 of Song is connected to the bonding pad 101 that is used to receive a transmitted signal. Song, col. 3, lines 39-47. Specifically, the termination circuit 105 is connected to the bonding pad 101 to terminate the bus line 104 for impedance matching purposes. Song, col. 3, lines 47-49.

For the reasons presented above, Song does not disclose all of the limitations of the claim because Song does not disclose a circuit component having different fan-in or fan-out configurations, as recited in the claim. Accordingly, Applicants respectfully assert claim 1 is patentable over Song because Song does not disclose all of the limitations of the claim.

2. Song does not disclose switching off a buffer.

Song also fails to disclose switching off a buffer. From the reasoning presented in the Office Action, it appears that the Examiner generally asserts that various combinations of transistors or other standard circuit components may be construed as a buffer. However, the Examiner's references to different types of inverters, non-inverting buffers, comparators, and op-amps "qualifying as buffer circuits" (Office Action, 8/18/09, page 2) is merely a general comment that is not related to the actual disclosure of Song. Therefore, these comments do not appear to form a part of the present ground of the rejection, which relies on the disclosure of Song.

In regard to the actual disclosure of Song, the reasoning in the Office Action relies on the combinations of PMOS and NMOS transistors shown in Fig. 2A of Song. It appears that the reasoning in the Office Action relies on a presumption that any combination of a p-type transistor connected in series with an n-type transistor, with a single input and an output between the transistors, may be considered a buffer. However, the specific use of the transistors in Song should not be considered a buffer because the voltages applied to the transistors of Song are not buffered, or stored, so that the signals on the transistors may be used in another capacity within the termination circuit 105. Rather, the voltages are applied to the buffer merely to create impedance for matching purposes with the bonding pad 101. Thus, the transistor pairs of Song do not provide any buffer functionality because the voltage signals on the transistors are merely used to create an impedance, rather than to store for future use or to pass along to other circuitry.

Thus, the mere description of a pair of transistors, as in the disclosure of Song, is insufficient to disclose a buffer because the description does not include some indication of signal buffering or storage functionality. Moreover, even if in general a pair of transistors may be used as a buffer, there is no description in Song that the indicated transistor arrangements might be used as buffers. Therefore, Song does not disclose a buffer.

For the reasons presented above, Song does not disclose all of the limitations of the claim because Song does not disclose a buffer and, more specifically, switching off a buffer, as recited in the claim. Specifically, the transistor arrangements of Song are not buffers and do not provide any buffering functionality. Accordingly, Applicants respectfully assert claim 1 is patentable over Song because Song does not disclose all of the limitations of the claim.

3. Song does not disclose switching off a buffer to adjust a drive capacity of the circuit component.

Even if Song were to describe switching off a buffer, generally, Song nevertheless does not disclose switching off a buffer to adjust a drive capacity of the circuit component. For reference, it should be recognized that the indicated circuit component is

the same circuit component recited as having different fan-in and fan-out configuration, as addressed above.

Since Song does not describe such a circuit component, for the reasons presented above, Song also fails to describe adjusting a drive capacity of the circuit component, whether by switching off a buffer or by another means. Thus, even if Song were to describe a buffer, generally, Song cannot describe switching off a buffer to adjust a drive capacity of the circuit component in the absence of disclosure of the circuit component as recited in the claim. In other words, Song cannot describe switching off a buffer to adjust a drive capacity of a circuit component that is not described.

For the reasons presented above, Song does not disclose all of the limitations of the claim because Song does not disclose switching off a buffer to adjust a drive capacity of the circuit component, as recited in the claim. Accordingly, Applicants respectfully assert claim 1 is patentable over Song because Song does not disclose all of the limitations of the claim.

4. Song does not disclose meeting a delay specification.

Song also fails to disclose meeting a delay specification. In support of the rejection, the Office Action merely references a propagation delay. However, the general reference to a propagation delay does not appear to be supported by the actual disclosure of Song. Specifically, Song does not disclose any type of propagation delay. Additionally, there appears to be no inherent disclosure of propagation delay, or a need to meet propagation delay specifications within the termination circuit 105, or any other component described in Song. Since the termination circuit 105 of Song is merely used for impedance matching, there should be no concern about the relative delays between signal paths within the termination circuit 105, or between a signals path within the termination circuit 105 and another signal path outside of the termination circuit 105. Therefore, the general reference within the Office Action to propagation delay is not supported by the actual disclosure of Song.

For the reasons presented above, Song does not disclose all of the limitations of the claim because Song does not disclose a delay specification or meeting a delay

specification, as recited in the claim. Accordingly, Applicants respectfully assert claim 1 is patentable over Song because Song does not disclose all of the limitations of the claim.

Independent Claim 12

Applicants respectfully assert independent claim 12 is patentable over Song at least for similar reasons to those stated above in regard to the rejection of independent claim 1. Claim 12 recites subject matter which is similar to the subject matter of claim 1 discussed above. Although the language of each claim differs, and the scope of each claim should be interpreted independently of other claims, Applicants respectfully assert that the remarks provided above in regard to the rejection of claim 1 also apply to the rejection of claim 12.

Dependent Claims

Claims 2, 4, 7-11, 13, and 14 depend from and incorporate all of the limitations of the corresponding independent claims 1 and 12. Applicants respectfully assert claims 2, 4, 7-11, 13, and 14 are allowable based on allowable base claims. Additionally, each of claims 2, 4, 7-11, 13, and 14 may be allowable for further reasons.

CONCLUSION

Applicants respectfully request reconsideration of the claims in view of the amendments and the remarks made herein. A notice of allowance is earnestly solicited.

At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account **50-4019** pursuant to 37 C.F.R. 1.25. Additionally, please charge any fees to Deposit Account **50-4019** under 37 C.F.R. 1.16, 1.17, 1.19, 1.20 and 1.21.

Respectfully submitted,

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